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2500 SHREVEPORT HIGHWAY · PINEVILLE, LOUISIANA 71360

Symposium Plans Finalized

Planning for the IPM Program's final symposium is in the process of completion. The meeting, scheduled April 15-18, 1985, at the Grove Park Inn and Conference Center, Asheville, NC, will include a registration session (fee: \$30.00 before March 1; otherwise, \$35.00) and an icebreaker on the evening of the 15th. A block of rooms has been reserved at the Inn (phone 704/252-2711) for conference participants. Rates are \$50 single; \$60 double, with early reservations suggested. For additional information, contact the IPM Program, 2500 Shreveport Highway, Pineville, LA 71360 (318/473-7250).

Cosponsors of the Symposium are the USDA Forest Service (Southeastern Forest Experiment Station, Southern Forest Experiment Station, and Southern Region, S&PF), and the USDA

Cooperative State Research Service. Cooperating organizations include Southern Region of the National Association of Professional Forestry Schools and Colleges, Southern Industrial Forestry Research Council, Southern State Agricultural Experiment Stations, Association of Consulting Foresters, Cooperative Extension Service's Southern Region, Southern Group of State Foresters, and Southern Regional Planning Group 2.0. Members of the Steering Committee are: Dr. Stanley J. Barras, Assistant Director, Southern Forest Experiment Station; Dr. Arnett C. Mace, Jr., Director, School of Forest Resources and Conservation, U. FL; Dr. Jerry A. Sesco, Assistant Director, Southeastern Forest Experiment Station; Dr. John C. Meadows, CSRS; and Dr. Harvey V. Toko, Staff Director-FPM, R-8, S&PF. The Agenda for the meeting follows:

Session/Topic	Scheduled	Title	Presenter
I. Sampling & Impact Assessment Moderator: G. N. Mason, NE	April 16, 1985		
A. Sampling Pest Populations	Morning	Overview of sampling SPB populations Procedures for sampling 6-spined <i>Ips</i> populations in slash pine Line intersect sampling technique for estimating <i>Ips</i> populations in slash pine	Coulson et al., TXA&M Foltz, Corneil, Reich, U. FL Berisford, U. GA; Mizell, U. FL Kudon, U. GA Fatzinger, SE
B. Estimating Areawide Pest Population Change/Timber Loss	Afternoon	Efficacy of turpentine-baited traps for capturing BTB & other forest Coleoptera & preventing attacks by BTB in small stands of pines Estimating SPB-caused timber losses over extensive areas Objective prediction of climate-related changes in distribution of SPB Large-scale prediction of SPB population changes through time & space Methods/models for estimating annosus root rot in pine stands	Ward, R-8, S&PF Michaels, U. VA Mawby & Hain, NC State Alexander & Hokans, VPI&SU

Session/Topic	Scheduled	Title	Presenter
C. Special Session	Evening	Growth following thinning model for loblolly pine stands infected by annosus root rot Yield predictions for unthinned slash, loblolly plantations infected with fusiform rust Procedures for monitoring airborne populations of SPB & predator <i>Thanisimus dubius</i> with pheromone-baited survey traps	Hokans & Fanelli, VPI&SU Nance, Froelich, Dell, Shoulders, SO Billings, TX FS
II. <i>Pests and Host/Pest Interactions</i> Moderator: R. C. Thatcher, SO	April 17		
A. Pests and Associated Organisms	Morning	Host preference behavior of insect parasites in presence of SPB & one or more <i>Ips</i> species Strategies for cohabitation of SPB: comparisons for life process biologies Effects of temperature & slash pine phloem thickness on <i>Ips calligraphus</i> life processes Relationship of symbiotic fungi to SPB population trends Epidemiology of SPB: initiation & growth of infestations Host factors contributing to SPB host resistance	Kudon & Berisford, U. GA Wagner et al., TX A&M Haack, MI State; Foltz & Wilkinson, U. FL Bridges, SO
B. Host/Pest Interaction	Afternoon	Effects of soil & tree disturbance on tree growth, host physiological condition & consequent pest incidence Induced defenses against <i>Dendroctonus frontalis/Ceratocystis minor</i> : variation in loblolly pine resistance Chemistry of host resistance to SPB & fungal associates in southern pines	Coulson, TX A&M Hain & Perry, NC State Nebeker & Hodges, MS State Paine & Stephen, U. AR Cates & Gambliel, U. NM; Stephen & Paine, U. AR
C. Descriptive & Predictive Models	Afternoon	A <i>Dendroctonus frontalis</i> infestation growth model: organization, refinement, utilization Practical use of biophysical model for predicting SPB spot growth Evaluation & application of TAMBEETLE & Arkansas spot growth models in Gulf Coastal Plain Energetics of pine defense systems to bark beetle attack	Stephen & Lih, U. AR Feldman, Wagner, Sharpe, & Wu, TX A&M Nettleton & Connor, R-8, S&PF
D. Special Session	Evening	Qualitative & quantitative variation in performed & induced chemistry in loblolly pine Interpreting commonly observed tree, stand & SPB relationships	Sharpe, TX A&M; Cates, U. NM; Wu & Coulson, TX A&M Cates & Gambliel, U. NM; Paine & Stephen, U. AR Lorio, SO
III. <i>Management Approaches & IPM Systems</i> Moderator: G. D. Hertel, NE	April 18		
A. Hazard-Rating Systems	Morning	Development, implementation & validation of large area hazard & risk rating for SPB Predicting susceptibility to SPB attack in Piedmont, So. Appalachians & Coastal Plain Potential utility of soils resource information in stand risk-rating for SPB Adaptation of littleleaf disease hazard rating for use in forest management in South Carolina National Forests	Billings & Bryant, TX FS Hedden, Clemson U.; Belanger, SE Lorio & Sommers, SO
B. Management Tactics		Stand structure following selective cutting of trees damaged by fusiform rust in slash/loblolly plantations Salvage-sanitation cutting in fusiform rust-infected slash/loblolly plantations: post-treatment pest assessments	Oak & Hoffard, R-8, S&PF Belanger, SE; Godbee, Union Camp; Miller, SE Miller & Belanger, SE; Godbee, Union Camp; Webb, U. FL

Session/Topic	Scheduled	Title	Presenter
C. IPM Systems	Afternoon	Thinning & harvesting practices to minimize site/stand disturbance & susceptibility to bark beetle & disease attacks	Nebeker & Hodges, MS State
		Laboratory & field tests of insecticides for control of BTB, & field tests of pine oil as repellent for southern pine bark beetles	Nord, Jones & Hastings, SE
		Use of frontalure to suppress SPB spot growth under endemic & epidemic conditions	Payne, TX A&M; Kudon & Berisford, U. GA
	Evening	Simulation of SPB-associated timber loss using CLEMBEETLE	Hedden, Clemson, U.
		SPB-MICROBEETLES: simulation system for evaluating performance of single stands under various management regimes/ infestation levels	Thompson, U. MD - Frostburg
		ITEMS: integrated method to project southern pine stand development	Vasievich, SE; Thompson, U. MD - Frostburg
		Risk assessment of investments in loblolly pine plantations threatened by bark beetles	Anderson & Guldin, SO; Vasievich, SE
		SPB decision support system	Saunders et al., TX A&M

IPM Cooperator Honored

Ron Billings of the Texas Forest Service received the 1984 Research Award of the Texas Forestry Association during its 70th annual meeting held recently in Dallas.

Ron's extensive work on SPB, including development and implementation of improved pest management systems in East Texas, his writing and photography were recognized for their contribution to a better understanding of SPB by the "entire forestry community."

TFA is a private, nonprofit, nongovernmental organization numbering almost 2,500 members and dedicated to promoting and enhancing the State's forests and related resources. Billings is currently serving as chairman of the Association's forest pest committee.

Nice going, Ron!

Texas Demo Project Cites '83 Doings

The cooperative Federal-State project initiated in Texas in 1980 to demonstrate new technology for SPB management reviewed its accomplishments for the past year in a recently released annual report (TFS Publication #136).

Highlights included: 1) Distribution of SPB stand hazard maps to industrial landowners and TFS offices; 2) development of a new areawide

hazard-rating system; 3) implementation and validation of the SPB Decision Support System (DSS) under development at Texas A&M; 4) establishment of microcomputer systems at TFS district offices in Livingston and Lufkin, and 5) technology transfer activities.

The stand hazard maps, which identify pine stands most prone to SPB infestation, have been distributed to major companies like Champion, International Paper, St. Regis, and Temple EasTex, among others. Block and grid locations for high- and extreme-hazard stands have also been supplied to major companies, who, in turn, furnished the TFS Pest Control Section with information on current status and 5-year plans for managing their beetle-prone stands. In addition, maps have been sent to nonindustrial private landowners and consulting foresters in the demonstration area (Polk and Tyler counties). Those with extreme-hazard stands have been notified by mail of conditions and urged to thin or harvest when markets were favorable.

The TFS reports that the areawide SPB hazard-rating system described earlier in PM News (see issue #49) has the advantages of accuracy, simplicity, low cost, and broad applicability. Records of SPB infestations during 1982-83 were used to validate the system, and, as previously reported, results confirmed its accuracy. Thus, the system has successfully isolated a large proportion of the infestations in a small area identified as high hazard. In another application, results showed that current host condition

ranked by county provided a better clue for prediction of SPB population trends than historical infestation patterns.

The DSS is now reported available for use. As part of the Demo project, the Pest Control Section is testing and implementing various components of this system.

Microcomputers installed at Lufkin Pest Control headquarters continue to contribute significantly to the quality and efficiency of their operations and increase the effectiveness of SPB control decisionmaking.

In the area of technology transfer, the annual report mentions that numerous training sessions on insect and disease identification and control and IPM aspects have been conducted for State, industrial, consulting, student, and international foresters. In addition, publications, general interest articles, and a quarterly newsletter have provided pest management information to a wide audience. Video and slide tapes are being pre-

pared for technology transfer. T/T activities are expected to accelerate as the Demo project nears completion.

IPM Information Blitz Underway

The IPM Program plans a major technology transfer effort during FY 1985, the final year of its operation. For the benefit of our readers, the following tabulation updates the status of publications and visual aids currently "in the works." In addition to the tabulated items, a number of feature articles is being prepared for professional and trade magazines. For further information, contact the IPM Writer-Editor, Susan Branham, 2500 Shreveport Highway, Pineville, LA 71360 (318/473-7245).

Series or Description	Author(s)	Title	Status*
USDA Agriculture Handbook No. 634	Thatcher (SO) and Connor (R-8, FPM)	Identification and biology of southern pine bark beetles	In proof
USDA Agriculture Handbook No. 637	Mason & Lorio (SO), Belanger (SE), & Nettleton (R-8, FPM)	Rating the susceptibility of stands to southern pine beetle attack	In proof
USDA Agriculture Handbook	Patterson (WV Univ.)	SAMTAM—a sawmill profitability guide for green and beetle-killed timber	In draft
USDA Agriculture Handbook	Goyer & Lenhard (LSU), Nebeker (MS State) & Schmitt (MS State)	Distinguishing immatures of insect associates of southern pine bark beetles	Submitted for publication
USDA Agriculture Handbook	Belanger (SE), & Hedden & Tainter (Clemson Univ.)	Pine management to reduce losses due to bark beetle-littleleaf disease complex in the Piedmont	In preparation
USDA Agriculture Handbook	Alexander & Hokans (VPI), & Anderson (R-8, S&PF)	Sampling, evaluating, controlling annosus root rot in plantations	In planning
USDA Agriculture Handbook	Thatcher & Mason (SO), & Hertel (NE)	Integrating pest management guidelines in southern forestry practices	In planning
USDA Agriculture Handbook	Berisford & Kudon (Univ. GA), & Payne (TX A&M)	Use of an attractant to disrupt southern pine beetle spot growth	In preparation
USDA/FS Technical Bulletin or General Technical Report	Nebeker, Hodges, Karr & Moehring (MS State)	Thinning practices and associated pest problems in southern pines	Submitted for publication
USDA/FS Technical Bulletin or General Technical Report	Woodson (LA Tech.)	Utilization of beetle-killed southern pine	Submitted for publication
USDA/FS Technical Bulletin or General Technical Report	Hertel (NE), Branham (SO), & Swain (R-8, S&PF)	Technology transfer in the IPM Program	In preparation
USDA/FS Technical Bulletin or General Technical Report	Branham, Mason & Thatcher (SO)	Proceedings, IPM Research Symposium, Asheville, NC	In planning
USDA/FS Technical Bulletin or General Technical Report	Mason (SO)	Predicting southern pine beetle trends	In draft

Series or Description	Author(s)	Title	Status*
USDA Agriculture Information Bulletin	Branham, Thatcher, Mason (SO), & Hertel (NE)	Integrated pest management in the South— highlights of a 5-year program	Submitted for publication
Fact Sheets (SO Region Forestry Bulletin Series)	Patterson (WV Univ.)	Utilization guides for green and beetle-killed timber	Submitted for publication to R-8
	Hedden (Clemson Univ.)	CLEMBEETLE	Submitted for publication to R-8
	Feldman (TX A&M)	TAMBEETLE	Submitted for publication to R-8
	Billings (TX For. Serv.)	TFS Spot Growth	Submitted for publication to R-8
	Vasievich (SE)	Integrated Timber & Economics Management Simulator	Submitted for publication to R-8
	Thompson (MD Univ.)	SPB—Micro Beetles	Submitted for publication to R-8
	Stephen (Univ. AR)	Arkansas SPB	In planning
	Hedden (Clemson Univ.)	Piedmont Risk	Submitted for publication to R-8
	Michaels (Univ. VA)	SPB Comp	Submitted for publication to R-8
	Saunders (TX A&M)	SPB Decision Support System	Submitted for publication to R-8
	Nebeker (MS State)	MS Hazard B	Submitted for publication to R-8
	Lorio (SO)	NF Risk	Submitted for publication to R-8
	Billings (TX For. Serv.)	TFS Grid Hazard	Submitted for publication to R-8
	Swain (R-8, S&PF)	AR Hazard	Submitted for publication to R-8
	...	Mountain Risk	Submitted for publication to R-8
	...	IPM Decision Key	Submitted for publication to R-8
	Hedden (Clemson Univ.)	Aerial GA	Submitted for publication to R-8
	Billings (TX For. Serv.)	SPB Control Priority	Submitted for publication to R-8
	Nance (SO)	Fusiform rust yield-slash	Submitted for publication to R-8
	Alexander (VPI)	Sampling for annosus root rot	In preparation
	Hokans & Alexander (VPI)	GY-Annosus	Submitted for publication to R-8
	Redmond (R-8, S&PF)	Borax for annosus prevention	Submitted for publication to R-8
	Oak (R-8, S&PF)	Littleleaf predict	In planning
Slide tape	Ifju (VPI)	Utilization of beetle-killed timber	Submitted for release to R-8
	Hoffard & Anderson (R-8, S&PF)	Applying integrated pest management in southern forests	Submitted for release to R-8
	Anderson (R-8, S&PF)	Fusiform rust	Draft in review
	...	Annosus root rot	In planning
	...	Littleleaf disease	In planning
Movie	Tainter (Clemson Univ.)	Littleleaf disease	Completed, awaiting distribution
	Tainter (Clemson Univ.)	Portable sawmill for utilizing beetle-killed timber on small ownerships	Completed, awaiting distribution

* As of December 1, 1984

Mason Named Gypsy Moth Project Leader

Dr. Garland N. Mason, Research Coordinator for the IPM Program for the past 4 years, has been appointed Project Leader for the Silvicultural Options for the Gypsy Moth Project at the Northeastern Forest Experiment Station. He will report to the project's headquarters in Morgantown, West Virginia, on March 4.

Mason came to the IPM Program from a faculty position in the School of Forestry at Stephen F. Austin State University in Nacogdoches, Texas. He held the rank of Assistant, then Associate Professor, during his 6-year stint at the university. Prior to that assignment, Garland served for 4½ years in the Pest Control Section of the Texas Forest Service in Lufkin.

Garland has done an excellent job in planning, implementing and coordinating a variety of research and applications jobs in the IPM Program. In the words of Program Manager Bob Thatcher, he has been "a real team player." He has also been instrumental in developing a number of special reports, publications, and training aids. "Garland is widely respected in the southern forestry community and we will miss him, but wish him the best of luck," said Thatcher.

SPB Strikes Louisiana!

A recent news release from the headquarters of the Kisatchie National Forest in Louisiana has revealed details of a southern pine beetle outbreak in the 8,700-acre Kisatchie Hills Wilderness Area. Infestations have spread rapidly due to the unseasonably warm, wet weather this past fall and are no longer confined to the Wilderness Area.

According to R-8 entomologists, if the outbreak goes unchecked, it threatens public and private timberland beyond the Wilderness boundaries as well as the esthetic values of the area itself. Measures have been taken outside the designated wilderness to contain the infestation while control actions on the protected area are being determined on a spot-by-spot basis.

Both the Louisiana Office of Forestry and the Forest Service report a high frequency of SPB in eight parishes in the State as of this writing. The two sources expressed concern that, if unchecked, the outbreaks could develop into a population explosion next spring. PM News will keep its readers informed of further developments.

Conference Proceedings Published

The proceedings of the Integrated Forest Pest Management Symposium held in Athens, GA, June 19-21, 1984, is off the press. The 281-page book, published by the University of Georgia's Center for Continuing Education, serves as state-of-the-art on the management of animals, diseases, insects, and vegetation in pine stands, nurseries, and seed orchards. The IPM Program has a limited number of copies available for distribution. Requests may be addressed to: IPM Program, 2500 Shreveport Highway, Pineville, LA 71360; 318/473-7250.

Semiannual Seminar Meets in Texas

The second East Texas Forest Entomology Seminar for 1984 took place October 25 and 26 at the Kurth Lake Lodge on the grounds of the St. Regis Paper Company near Nacogdoches, TX. The meeting was cosponsored by the Pest Control Section of the Texas Forest Service and the Center for Applied Studies at Stephen F. Austin State University's School of Forestry. Hosts from the respective organizations were Ron Billings and Dave Kulhavy.

Joe Pase (TFS) started off the first day's proceedings with a discussion of the SPB situation in Texas. He reported that 60 percent of the beetle-killed timber has been salvaged. Forrest Oliveria (R-8, FPM) followed up Joe's report with a description of what happens when foresters are "not allowed to practice good management," detailing the Four Notch beetle outbreak disaster of the past year. Oliveria disclosed that at the height of infestation development and spread, spots were advancing at the rate of 50 feet a day, and destroying about 4,000 cubic feet of timber in the process! Ron Billings' presentation on "The role of host odors in response of bark beetles and associated insects to pheromones and kairomones," was followed by a discussion by Bob Coulson of Texas A&M on the epidemiology of the SPB as it relates to the distribution and frequency of lightning strikes. Then Robert Maggio, also from TX A&M, described the use of Landsat imagery for SPB hazard rating. Pete Lorio (SO Station) continued with a review of the relationship between tree growth and SPB activity, emphasizing that host physiological conditions have to be suitable for mass beetle colonization and population growth to occur.

The rest of the first day was devoted to a forum on new SPB technology and how it's being used, moderated by Mike Saunders of TX A&M and including panel members Darwin Foster (Temple EasTex), Charles Bryant (TFS), Mike Connor (R-8, FPM), Ellen Nuckols (Raven Ranger District, Sam Houston NF), and Clint Floyd (District Ranger, Holly Springs Ranger District, Holly Springs NF). Participants detailed their experiences with various hazard-rating systems, risk/trend prediction models, and spot growth models, and how these were used to determine treatment priorities. Acceptance and use of the new technology in operational programs differed among Federal, State, and industry organizations. While some reported that the information was being used in management decisionmaking, others revealed that they were not fully aware of the technology or were not ready to use it yet.

Friday's opening presentation by Charles Wick of Stephen F. Austin was on the economics of Christmas tree management. Fred Stephen and Bruce Steward (U. AR) followed with a description of their new study, "Cornucopia: effect of periodical cicada emergence on community dynamics," which is being initiated in northwestern Arkansas hardwood forests. Problems and progress in oak wilt research was the topic of Dave Appel of TX A&M, after which Carol Riggs of the Texas Forest Service presented a summary of a "town ant survey" for east Texas. Town ants were also the subject of the final presentation of the meeting by Wes Nettleton (R-8, FPM), who described an aerial technique for locating towns and estimating impact of this insect.

The seminar was attended by Federal, State, and university specialists as well as students from Texas, Arkansas, and Louisiana. Bob Thatcher, Garland Mason, and Susan Branham participated from the IPM Program.

Southerners Participate in Western Forum

Western regional research project W-110 cooperators met in Taos, New Mexico on September 28-29 to discuss recent research progress, plans for continuation of the project for an additional 5-year term, and expansion to include researchers from the South. The project is designed to provide a vehicle through which entomologists and pathologists can explore bark beetle and root disease interactions on common sites. Western participants included researchers and pest management specialists from the Uni-

versity of California at Berkeley and Riverside, Utah State University, the State of Washington, Region 1 Forest Pest Management, and the Pacific Southwest Forest and Range Experiment Station. Attendees from the South included Pete Lorio (Forest Insect Research) and Bob Thatcher and Garland Mason (IPM Program), Southern Forest Experiment Station; Dave Drummond, R-8 Forest Pest Management, and Roger Webb, University of Florida. Webb, an IPM Program coinvestigator, is currently serving as secretary of the group and will advance to chairman in 1985. Other researchers in the South interested in littleleaf disease/bark beetle relationships and annosus root rot/bark beetle relationships are expected to participate in future planning and research activities.

Microtechniques Devised for Pine Resin Chemistry

Bob Thatcher, Garland Mason, and Pete Lorio recently visited the University of New Mexico at Albuquerque to discuss progress and plans in an IPM-funded project on the chemistry of loblolly pine host resistance to the southern pine beetle and associated fungi. The project, headed by Rex Cates working with chemist Herve Gambliel, is closely coordinated with related studies at the University of Arkansas, Mississippi State, and the Southern Forest Experiment Station.

Building on experiences with host chemistry relative to spruce budworm defoliation, the researchers have developed quantitative methods for measuring chemical compounds associated with bark beetle/fungal interactions in loblolly pines using sample sizes as small as 100 milligrams. These methods not only provide a means of exploring bark beetle/fungus/host relationships, but are also a useful analytical tool for other researchers interested in pine and resin chemistry.

Results of these studies are expected to yield information that will enhance our understanding of tree susceptibility and defense mechanisms, and possibly lead to further refinement and improvement of hazard rating and outbreak projection systems.

Georgia "Beetlebook" Issued

Terry Price of the Georgia Forestry Commission has kindly provided the IPM Program with copies of the Commission's newly released "Guidelines for Managing Pine Bark Beetles in Georgia." This 3-ring notebook (similar to IPM's

own "Forester's Handbook for Reducing Bark Beetle and Disease-Caused Losses in Southern Pines," issued August '84, see PM News #50), contains valuable information dealing with the beetle species that damage pine forests in the State. Contents include sections on history, detection and evaluation, direct control, prevention, hazard rating in the Piedmont, coastal, and mountain areas, and development of a southern pine beetle evaluation and control program. There is also a glossary of SPB terms and an appendix listing portable sawmill operators in Georgia. The notebook was put together for the Commission by Chet Karpinski and Roy Hedden of Clemson, Roger Belanger of the Southeastern Station, and Price. For further information, contact Terry at the Commission, Box 819, Macon, GA 31298 or 912/744-3241.

Pest Topics Aired at Silviculture Meeting

IPM Program Manager Bob Thatcher moderated a session on pest management strategies at the Third Biennial Southern Silvicultural Research Conference, held November 7-8, 1984, in Atlanta. The program was under the cosponsorship of the Southern and Southeastern Stations of the Forest Service, the Southern Region of the National Association of Professional Forestry Schools and Colleges, and the Southern Industrial Forestry Research Council.

The conference serves as a periodic forum for research coordination, exchange among silviculturists, continuing education, review of ongoing research, and presentation of new approaches of general interest. Speakers in the pest management segment of the program included Charles M. Bryant of the Texas Forest Service, who discussed hazard- and risk-rating systems in East Texas; Pete Lorio of the Southern Station and John D. Hodges of Mississippi State University, who presented information on bark beetle-microorganism-host tree interactions; and Catalino Blanche (Mississippi State), who described the effects of harvesting on changes in host physiology.

Conference proceedings will be published at a later date. Interested readers may contact Eugene Shoulders, Timber Management Research, Southern Forest Experiment Station, 2500 Shreveport Highway, Pineville, LA 71360; 318/473-7201.

Survey Links Wind Damage, Beetle Species

A recent East Texas Demo Project newsletter reports that many SPB infestations appeared in blowdown areas left by tornadoes and hurricanes in Texas in 1983. Surveys initiated last year to determine which bark beetles attack wind-damaged trees and what types of damage invite infestation have continued through 1984. Preliminary data show that "leaners" (root-sprung trees) are infestation centers for the southern pine beetle, whereas other wind-damaged trees are attacked primarily by *Ips* species. The report indicates more information will be forthcoming as more experience is gained in the wind-damaged area.

EPA Revamping Pesticide Rules

The Environmental Protection Agency recently announced its plans to revise present Federal regulations pertaining to pesticides. Among changes the Agency is considering are: 1) Expanding the scope of regulations with regard to categories of workers, work activities, and pesticide uses to which the regulations would apply; 2) revising protective clothing standards; and 3) amending the standard for warnings, and imposing further safety requirements.

Public comments to the EPA announcement were solicited with a due date of October 1, 1984. The Agency plans to issue a "notice of proposed rulemaking" within 12 months of that time. PM News will keep readers posted of further developments.

Southern Wilderness Symposium Announced

Dick Conner of the Southern Station's Nacogdoches (TX) field office and Dave Kulhavy of Stephen F. Austin State University have asked us to let our readers know about their upcoming, cosponsored wilderness symposium. The symposium deals with a number of subjects, including pests, of interest to a wide range of individuals from throughout the Southern and Eastern United States. Because of this broad geographic interest, a number of current and former investigators or associates of the IPM Program will participate in presenting information on bark

beetle and gypsy moth management in these unique areas. These include: Ron Billings, Bob Coulson, Tom Payne, Bob Thatcher, Gerry Hertel, Garland Mason, Forrest Oliveria, and Dave Drummond. Dave Drummond and Dave Kulhavy are coordinators of the protection session. The formal announcement follows:

A SYMPOSIUM: WILDERNESS AND NATURAL AREAS IN THE EAST: A MANAGEMENT CHALLENGE. A symposium addressing the ecology and management of wilderness and natural areas in the eastern United States will be hosted by Stephen F. Austin State University, Nacogdoches, Texas on 13-15 May, 1985. The symposium is cosponsored by the School of Forestry, Stephen F. Austin State University; the USDA Forest Service: Southern Forest Experiment Station, Southeastern Forest Experiment Station, and National Forest System (Region-8); and The Wilderness Society. Topics covered in the symposium will be: 1. Recreation— visitor needs and user impact; 2. Forest Ecology— wildlife, vegetation, and forest protection; 3. Grasslands and Savannah; and 4. Management Issues. Individuals interested in attending, or presenting an oral/written paper or a poster paper should write, or submit an abstract (less than 250 words) by 15 January, 1985 to: David L. Kulhavy (409-569-3301), School of Forestry, Stephen F. Austin State University, P. O. Box 6109 SFA, Nacogdoches, TX 75962 or, Richard N. Conner (409-569-7981), Southern Forest Experiment Station, USDA Forest Service, P. O. Box 7600 SFA, Nacogdoches, Texas 75962.

TFS Lists Personnel Changes

Ron Billings tells us that cohort Charles Bryant has left the Pest Control Section of the Texas Forest Service to take a position as forester with the TFS District in Conroe, TX. His replacement, Karen Wilson, a graduate of Stephen F. Austin State University, will serve out the final phase of the East Texas Demonstration Project. Good luck to both!

Other Publications

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Fanelli, E. S.; Incorporation of annosus root rot effects into growth and yield models for thinned loblolly pine plantations. Blacksburg, VA: The Virginia Polytechnic Institute and State University; 1984. 79 p. (Ms. Thesis)

Ham, D. L.; Hertel, G. D. Integrated pest management of the southern pine beetle in the urban setting. J. Arboric. 10(10):279-282; 1984.

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IPM Research Highlights

This section provides a timely introduction and description of new technology as it becomes available. We encourage you to use the summary as is or to abstract and distribute the material to employees, associates, clients, or cooperators in your own newsletters, fact sheets, technology tips, etc. If you use this information in any way, we would appreciate knowing how it was used and what the response was.

If you need more details, contact the Program or the developer of the technology.

GY-ANNOSUS

Purpose:

To predict cubic foot yields for thinned loblolly pine plantations infected with annosus root rot and compare them to yields of healthy stands.

Description:

GY-ANNOSUS predicts growth and yield on a whole-stand basis for thinned loblolly pine plantations. Models were developed from data from 15 plots in the Virginia Coastal Plain and 18 plots in the Alabama Coastal Plain. Data were taken for a single point in time, and growth measurements were based on growth ring analysis. Yield estimates obtained from this model with the infection level set to zero compare closely to those from other loblolly yield prediction models.

Inputs:

- 1) Site index (base age 25)
- 2) Current age
- 3) Current basal area
- 4) Annosus incidence level
- 5) Ages for thinning or harvest
- 6) Residual basal area for thinning

Outputs:

- 1) Cubic foot yields and basal area of infected stand
- 2) Cubic foot yields and basal area of comparable healthy stand

Accessibility:

The program is available on Apple DOS 3.3. diskettes for 48K RAM Apple II series computers with a single disk drive, monochrome monitor, and optional 80-column printer. Source code is provided for the Apple BASIC interpreter. Copies of the program may be requested from V.P.I. A \$20 charge is requested to cover diskette and documentation copying, handling, shipping, and user's list maintenance. Send a blank disk and a check or purchase order payable to the Forestry Department, Virginia Polytechnic Institute and State University to: Rickard H. Hokans, Forestry Department, Virginia Polytechnic Institute and State University, Blacksburg, VA 24061. Free copies of the program may be obtained by sending a blank disk to Nona Huckabee, Forest Pest Management, USDA Forest Service, 1720 Peachtree Rd., NW, Atlanta, GA 30367.

General Reference:

Fanelli, E. S. Incorporation of annosus root rot effects into growth and yield models for thinned loblolly pine plantations. Blacksburg, VA: Virginia Polytechnic Institute and State University; 1984. 78 p. (MS Thesis)

Additional Information:

Questions regarding annosus root rot sampling may be addressed to Dr. S. A. Alexander, Associate Professor, Department of Plant Pathology and Physiology, Virginia Polytechnic Institute and State University, Blacksburg, VA 24061. Telephone 703/961-5030. Questions regarding the growth and yield model should be addressed to Dr. Rickard H. Hokans. Telephone 703/961-7682.

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